

# FCC Test Report

## E4128128701KY1S1

Type / Model Name: DV2

Product Description: Digital Video Camera

Applicant: CONCORD KEYSTONE TRADING LIMITED

FCC ID: WMDDV2

## FCC -- T E S T R E P O R T

<b>Test Report No. :</b>	<b>E4128128701KY1S1</b>	December 16, 2009
<hr/>		Date of issue

This report supercedes our previous report no. E4128128701KY, dated November 05, 2009.

Type / Model Name : DV2

Product Description : DIGITAL VIDEO CAMERA

Applicant : GRANDTECH INDUSTRIAL LTD.

Address : FLAT A1-2, 11/F., BLK. A,  
YEE LIM INDUSTRIAL CENTRE,  
2-28 KWAI LOK STREET, KWAI CHUNG,  
N.T., HONG KONG

<b>Test Result</b> according to the standards listed in clause 1 test standards:	<b>PASS</b>
--	-------------

The test report merely corresponds to the test sample.  
It is not permitted to copy extracts of these test results without the written permission of the test laboratory.

## Contents

<b>1 TEST STANDARDS</b>	<b>4</b>
<b>2 SUMMARY</b>	<b>5</b>
<b>3 EQUIPMENT UNDER TEST</b>	<b>6</b>
<b>3.1 PHOTO DOCUMENTATION OF THE EUT</b>	<b>6</b>
<b>3.2 POWER SUPPLY SYSTEM UTILISED</b>	<b>7</b>
<b>3.3 SHORT DESCRIPTION OF THE EQUIPMENT UNDER TEST (EUT)</b>	<b>7</b>
<b>4 TEST ENVIRONMENT</b>	<b>8</b>
<b>4.1 ADDRESS OF THE TEST LABORATORY</b>	<b>8</b>
<b>4.2 ENVIRONMENTAL CONDITIONS</b>	<b>8</b>
<b>4.3 STATEMENT OF THE MEASUREMENT UNCERTAINTY</b>	<b>8</b>
<b>5 TEST CONDITIONS AND RESULTS</b>	<b>9</b>
<b>5.1 CONDUCTED DISTURBANCE</b>	<b>9</b>
<b>5.2 RADIATED DISTURBANCE (ELECTRIC FIELD)</b>	<b>13</b>
<b>6 USED TEST EQUIPMENT AND ACCESSORIES</b>	<b>17</b>

## 1 TEST STANDARDS

The tests were performed according to following standards:

■ **FCC Part 15 Subpart B :2008**

<b>Test Items</b>		<b>Remarks</b>
■ Conducted Emissions (150 kHz – 30 MHz)	Section 15.107 (a)	Class B
□ Conducted Emissions (150 kHz – 30 MHz)	Section 15.107 (b)	Class A
■ Radiated Emissions (30 – 1000 MHz)	Section 15.109 (a)	Class B
□ Radiated Emissions (30 – 1000 MHz)	Section 15.109 (b)	Class A

■ **ANSI C63.4:2003**

## **2 SUMMARY**

### **GENERAL REMARKS:**

None

### **FINAL ASSESSMENT:**

The equipment under fulfils the EMC requirements cited in test standard listed in section 1.

Date of receipt of test sample : October 29, 2009

Testing commenced on : October 29, 2009

Testing concluded on : November 05, 2009

Reviewed by:

Prepared by:

---

Wilson Loke  
Senior Manager

---

Kidd Yang  
Engineer

FCC ID:WMDDV2

File No. **E4128128701KY1S1**, page **5** of **17**

### **3 EQUIPMENT UNDER TEST**

#### **3.1 Photo documentation of the EuT**



Front View



Back View

### 3.2 Power supply system utilised

Power supply voltage: DC 7V(Build-in rechargeable battery)

### 3.3 Short description of the Equipment under Test (EuT)

The EuT is a digital camera powered by a DC 7V build-in rechargeable battery and recharged thru the USB port. It is used for digital photo taking and can download the photo to the PC thru the USB port.

Number of tested samples: One  
 Serial number: Not Labelled  
 Dimensions: L: 5.7cm W: 2.1cm H: 1.8cm

#### **EuT operation mode:**

The equipment under test was operated during the measurement under the following conditions:

- Operation mode 1: Download mode

- Operation mode 2: Record mode

- Operation mode 3: Stand by mode

#### **EuT configuration:**

**The following interface cables and peripheral devices were connected during the measurements:**

##### Interface cables:

Interface cable	Length [m]	Type	Line shielded	Line unshielded	Line termination
Serial Cable connect to PC	3.0	Serial port Cable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Switch Simulator
Power Cable of PC	2.0	3 wires	<input type="checkbox"/>	<input checked="" type="checkbox"/>	LISN
Parallel Cable connect to PC	3.0	Parallel port cable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Switch Simulator
USB Cable connect to EuT and PC	0.6	USB cable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	PC

##### Peripheral devices:

Kind of equipment	Model and/or Manufacturer
PC	DELL
Switch Simulator	Schaffner

## 4 TEST ENVIRONMENT

### 4.1 Address of the test laboratory

**emitel (Shenzhen) Limited**  
**Building 2, 171 Meihua Road,**  
**Futian District,**  
**Shenzhen, 518049**  
**China**

**FCC Registration No.: 746887**

### 4.2 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature: 15-35 ° C

Humidity: 30-60 %

Atmospheric pressure: 86-106 kPa

### 4.3 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16-4-2 /11.2003 „Uncertainties, statistics and limit modelling – Uncertainty in EMC measurements“ and is documented in the quality system acc. to ISO 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

## **5 TEST CONDITIONS AND RESULTS**

### **5.1 Conducted disturbance**

For test instruments and accessories used see section 6 Part I1.

#### **5.1.1 Description of the test location**

Test location: Shield Room

#### **5.1.2 Photo documentation of the test set-up**



### 5.1.3 Test result

Frequency range: 0.15MHz – 30.00MHz

The test was carried out in the following operation mode(s):

- Download mode
- Stand by mode
- Record mode

Min. limit margin -5.7dB at 0.72MHz.

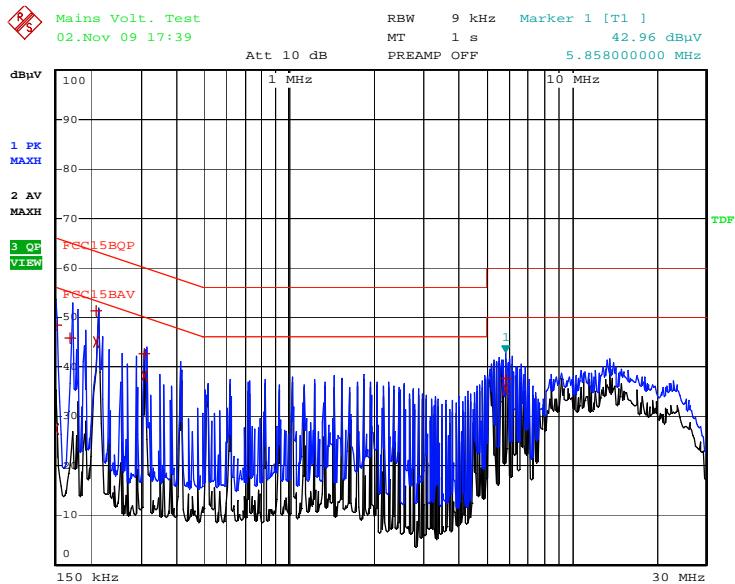
The requirements are **FULFILLED**

**Remarks:** \_\_\_\_\_

\_\_\_\_\_

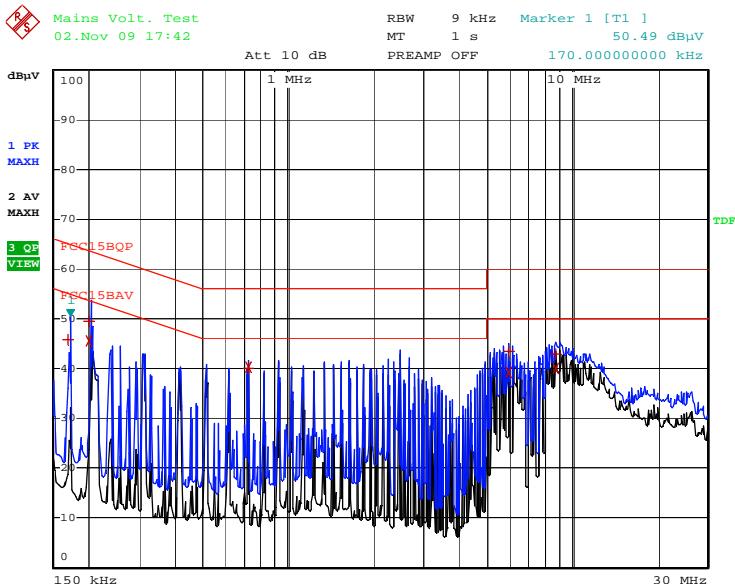
### 5.1.4 Test protocol

Product Description	: Digital video camera	Result: <b>PASS</b>
Model	: DV2	
Test mode	Download mode(worst case)	
Date	: 02-11-2009	



Date: 2.NOV.2009 17:39:12

N



Date: 2.NOV.2009 17:42:06

L1

FCC ID:WMDDV2

File No. E4128128701KY1S1, page 11 of 17

LINE	Frequency [MHz]	Measured QP Value [dB $\mu$ V]	Limit [dB $\mu$ V/m]	Margin [dB]
N	0.15	48.4	66.0	-17.6
N	0.17	45.7	65.4	-19.7
N	0.21	51.2	64.3	-13.1
L1	0.72	41.4	56.0	-14.6
L1	5.97	43.5	60.0	-16.5
L1	8.75	42.9	60.0	-17.1

LINE	Frequency [MHz]	Measured AV Value [dB $\mu$ V]	Limit [dB $\mu$ V/m]	Margin [dB]
N	0.15	27.4	56.0	-28.6
L1	0.21	45.6	54.3	-8.7
N	0.31	38.2	51.4	-13.2
L1	0.72	40.3	46.0	-5.7
L1	5.75	39.9	50.0	-10.1
N	5.86	37.7	50.0	-12.3

Remark: Other emission with more than 20dB margin below the limit is not measured.

## 5.2 Radiated disturbance (electric field)

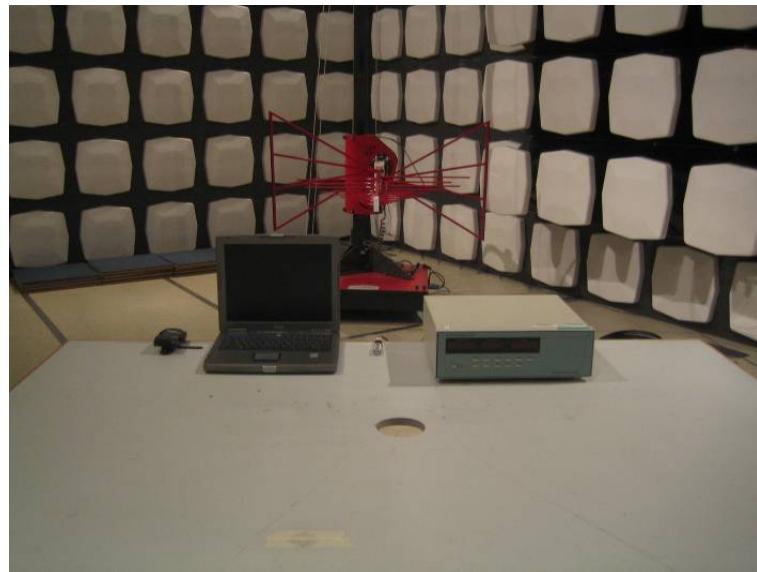
For test instruments and accessories used see section 6 Part I2.

### 5.2.1 Description of the test location

Test location: Semi-Anechoic Chamber

Test distance: 3m

### 5.2.2 Photo documentation of the test set-up



### 5.2.3 Test result

The test was carried out in the following operation mode(s):

- Download mode
- Stand by mode
- Record mode

Frequency range: 30MHz to 1000MHz

Min. limit margin -9.2dB at 662.32MHz.

The requirements are **FULFILLED**

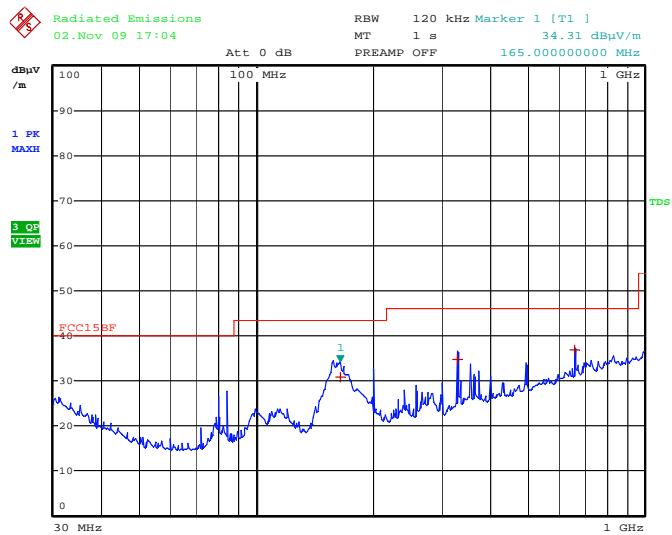
**Remarks:** \_\_\_\_\_

\_\_\_\_\_

#### 5.2.4 Test protocol

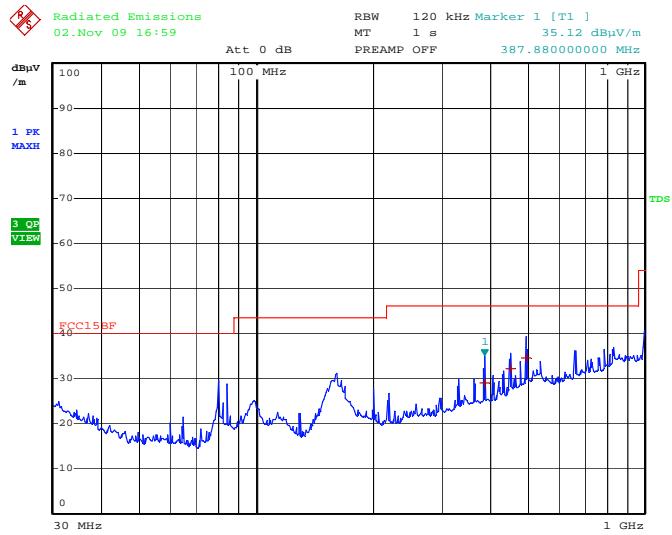
Product Description	: Digital video camera	Result: <b>PASS</b>
Model	: DV2	
Test mode	Download mode(worst case)	
Date	: 02-11-2009	

Start frequency [MHZ]	Stop frequency [MHZ]	Resolution bandwidth	step size	Measurement time	Detector
30	1000	120 kHz	40 kHz	1s	QP



Date: 2.NOV.2009 17:04:36

#### Horizontal



Date: 2.NOV.2009 16:59:52

#### Vertical

FCC ID:WMDDV2

File No. E4128128701KY1S1, page 15 of 17

Polarization	Frequency [MHz]	Measured QP Value [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
H	165.00	30.9	43.5	-12.6
H	331.24	34.7	46.0	-11.3
V	387.88	29.1	46.0	-16.9
V	453.36	32.2	46.0	-13.8
V	496.64	34.6	46.0	-11.4
H	662.32	36.8	46.0	-9.2

Remark: Other emission with more than 20dB margin below the limit is not measured.

## 6 USED TEST EQUIPMENT AND ACCESSORIES

All test instruments used, in addition to the test accessories, are calibrated and verified regularly.

Test ID	Model / Type	Kind of Equipment	Manufacturer	Equipment No.
I1	Test Receiver	ESPI3	Rohde & Schwarz	04-02/03-06-002
	LISN	ESH2-Z5	Rohde & Schwarz	04-02/20-06-001
	Coaxial cable	C009	emitel	N/A
	Coaxial cable	C010	emitel	N/A
I2	Test Receiver	ESPI3	Rohe & Schwarz	04-02/03-06-002
	BicoNILog Antenna	3142C	EMCO	04-02/24-06-001
	MiniMast	2175	ETS LINDGREN	04-02/30-06-001
	Mulit-Device Controller	2091	EMCO	04-02/30-06-002
	Turntable	2087	ETS LINDGREN	04-02/03-06-003